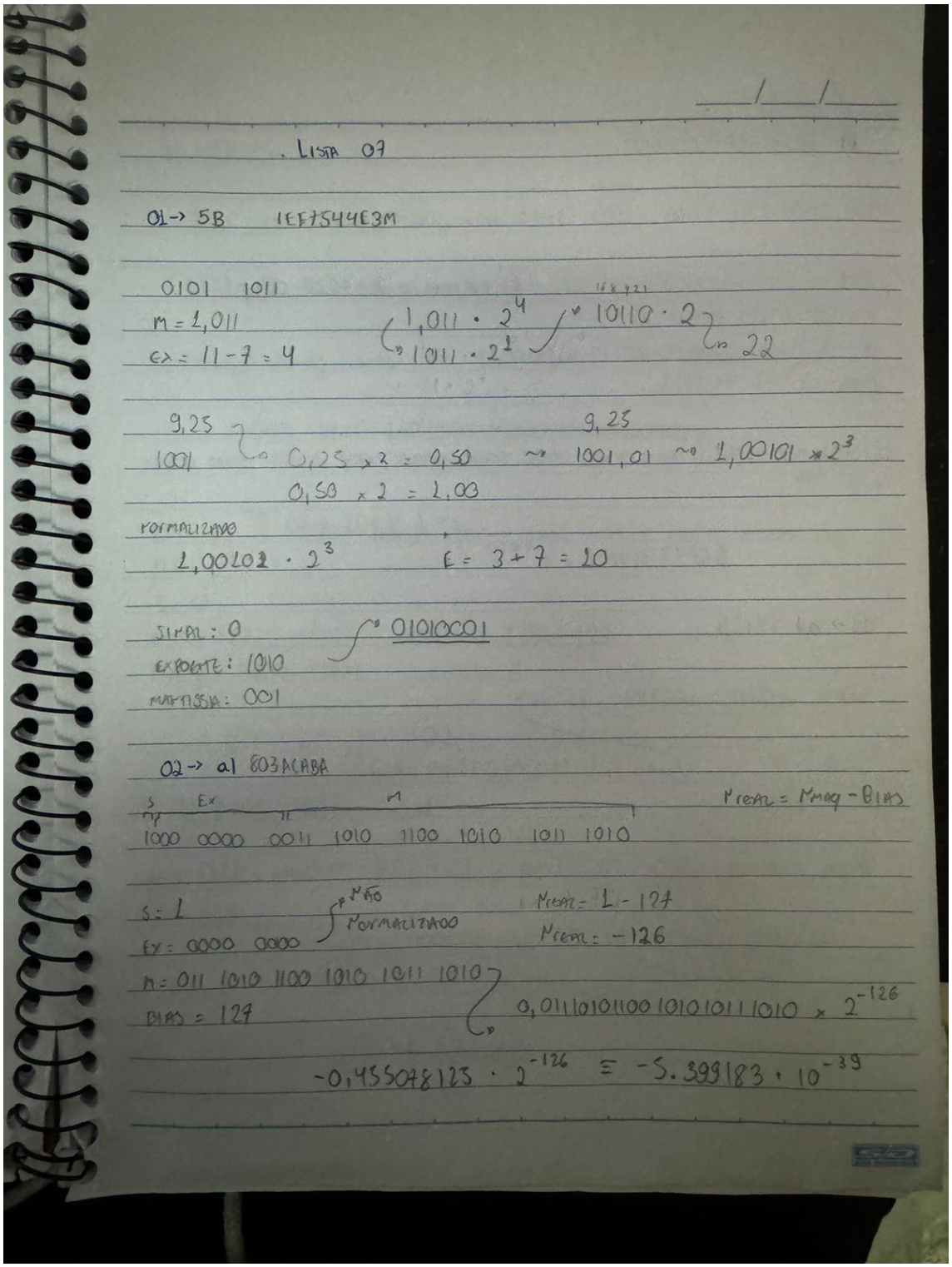
EXERCÍCIO PRATICO 7



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B) 803ACABA00000000

1000 0000 0011 1010 1100 1010 1011 1010 0000

S=1 $M_{real} = 3 - 1023 \sim -1020$

E = 000 0000 0011

M = 0,1010110010101011110100000...

BIAS = $2^{10} - 1 \sim 1023$

0,1010110010101011110100000 0000 0000 0000 0000 0000 0000 0000
$\cdot 2^{-1020}$

$1,67449378 \times 2^{-1020} \int^{0} 4,4903 \times 10^{-307}$

03 → al 14125

0011 0111 0010 1110

S=0 $\sim 1,10111001011110 \cdot 2^{13}$

BIAS = 127

$M_{real} = M_{MAG} - BIAS \sim M_{mag} = 13 + 127 \sim M_{MAG} = 140$

01000 1100 1011100101111000000000000121

0x 463CB400

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b) -58,75

BIAS = 127

1110 0100 0000 0111

1,1100100 00000111 · 2^{15}

$M_{real} = M_{mag} - BIAS \rightsquigarrow 15 = M_{mag} - 127 \rightsquigarrow M_{mag} = 142$

11000 1110 1100100 00000111 00000000,21

0xC7640700

04- a) 0 1000 0001 0110 0000 0000 0000 0000 000

S = 0

BIAS = 127 $M_{real} = 129 - 127$

M_{mag} = 1000 0001 $M_{real} = 2$

1,011 · $2^2 \rightsquigarrow$ 101,1 $\rightsquigarrow$ 5,5

b) 1 1000 0001 0001

S = 1

BIAS = 127 M_{mag} = 1000 0001 $0 \times 2^{-1} + 1 \times 2^{-2}$

$M_{real} = 129 - 127 = 2$

1,0001 · $2^2 \rightsquigarrow$ 100,01 $\rightsquigarrow -4,25$

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os → a) 7F7FF800

0111 1111 0111 1111 1111 1000 0000 0000

1,11 1111 0111 1111 1111 1000 0000 0000 · 2^{30}

S=0

N_{mag} = 111 1111 0 ~ 254 N_{real} = 254 - 127 = 127

GAS = 127

1,11111111111000 0000 0000 · 2^{127} a c b

b) D57F0000

NÚMERO NEGATIVO

1101 0101 0111 1111 0000 0000 0000 0000

1,101 0101 0111 1111 0000 0000 0000 0000 · 2^{30}

S=1

N_{mag} = 101 0101 0 ~ 170 N_{real} = 170 - 127 = 43

1,101 0101 0111 1111 0000 0000 0000 0000 · 2^{43}

c) 5F7FF800

0101 1111 0111 1111 1111 1000 0000 0000

1,01 1111 0111 1111 1111 1000 0000 0000 · 2^{30}

N_{mag} = 101 1111 0 ~ 190 - 127 = 63 ? D 1,01 1111... · 2^{63}

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REAL 112 * 0,224 = 25,088

REPRESENTADOS

112 * 0,1875 = 21

ERRO ABSOLUTO 4,088

ERRO RELATIVO $\frac{4,088}{25,088} \cong 0,16294$

REAL 112 + 0,224 = 112,224

REPRESENTADOS

112 + 0,1875 = 112,1875

ERRO ABSOLUTO 0,0365

ERRO RELATIVO $\frac{0,0365}{112,224} \cong 3,252423$

07 - 112

$1,1100 \cdot 2^6$

GMS: $2^2 - 1 = 3$

MAG = 6 + 3 = 9 = 1001

0 100 1100

Mag = 4

EXP = 4 - 3 = 1

$1,1100 \times 2^1$

11,00 = 3

0,224

$1,1001100110 \cdot 2^{-3}$

BIAS = 3

Mag = 0

0 000 1101

exp = 1 - 3 = 2

$1,1101 \cdot 2^{-2}$

0,011101 -> 0,25 + 0,125

$\cong 0,453125$

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ERRO ABSOLUTO:

SOMA: 12,224 - 3,453125
108,77

MULTIPLICAÇÃO: 25,088 - 1,3593
23,7287

ERRO RELATIVO

SOMA: 0,969

MULTIPLICAÇÃO: 0,9457